Philips luminous textile with **kvadrat soft cells**

System integration

PHILIPS

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Document information

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Contact address	Large Luminous Surfaces, Philips Lighting BV High Tech Campus 27 5600 AE Eindhoven, the Netherlands Email: *info.luminous-textile@philips.com* or *support.luminous-textile@philips.com* Website: *www.largeluminoussurfaces.com*

1. Introduction

1.1 General

The Luminous textile panel can easily be integrated with various control and building management systems. This allows for the luminous textile to become integrated with (available) control systems, reactive to sensors or interactive to cameras or other advanced sensors. This document will describe the various alternatives and protocols the luminous textile panel supports.

It is expected that the reader of this document is acquainted with system integration, lighting control systems and has knowledge about the installation and use of the luminous textile.

Note that advanced skills and experience might be required to create certain integrated applications. These installations are mostly performed by a partner or installer who has programming skills to build the application to customers' needs. There are various companies that can perform this task, please contact us and we can help you in finding a suitable partner to perform this task for you.

1.2 Application examples

There is a wide variety of integration options possible to increase the value of your luminous textile application. Below are some examples how system integration might be of use for reactive or interactive installations.
Please feel free to contact us for more information at *support.luminous-textile@philips.com*

1.2.1 Change content on entry

Imagine walking into a room and the surfaces comes to life!
Using a simple ceiling mount sensor to detect your presence from a control system like Dynalite, it can easily be linked to luminous textile.

1.2.2 Integrate in a demonstration setup

Have a luminous textile panel in your showroom? Ensure all your demonstration to customers goes perfectly synchronized, every time again. The luminous textile can easily be linked with Crestron / AMX / Pharos and other control systems which are typically used in this type of environment

1.2.3 Different layers of content

Do you like your content, but would you like to use multiple movies at the same time? Or adjust colors in real time, set transparency, zoom and much, much more? Media servers like Pandoras box from Coolux, Green Hippo systems or MA lighting controls can natively control our luminous textile panels.

1.2.4 Play with camera's

Would you like to link a camera to the panels? Not to 'just' show video, but maybe for some face recognition? Or track where on the panel the person is watching? There are standard solutions available who offer this type of features, such as Pandora's box media server from Coolux.

1.2.5 Play with depths and resolutions

The luminous textile is a great solution to provide ambient atmosphere. But what if you sometimes need to provide information too? Using media servers like mentioned above, you can seamlessly link high resolution projection with our low resolution ambient lighting, all from a single controller.

1.2.6 Integration with functional lighting and building management systems

You've got a Dynalite or other system installed to control your functional lighting? Why not ensure that the luminous textile gets on and off at the right times? Save energy by ensuring the panel is not unnecessary on.

1.2.7 Video Jockey with luminous textile

For the perfect rhythmic mix of music and content, and have real time control to alter to the wishes of the crowd, software programs such as Madrix or other media servers can be used to directly from the controller connect to our panels. Great way to create a good party atmosphere.

1.2.8 Use the luminous textile to a display parts of a computer screen

Got some great graphic program on your computer you would like to see in real time on your panels? There are of the shelve systems available to link your video signal to our panels. Composite, VGA or DVI? No problem, just convert it to our panels using a Philips Color Kinetics Video System Manager, Artistic Licence DVNET or media converter.

1.2.9 Custom created interactivity, straight form your computer

For those who are comfortable with writing software, a streaming protocol our panels support can easily be integrated. Interactive solutions, ever changing content, content created by users worldwide, the only limit is your imagination…

Inspired, but don't know where to start? Please feel free to contact us for more information at *support.luminous-textile@philips.com*

2. Validity of this document

The mentioned integration options and syntax are relevant for luminous textile firmware version 2.5.x.

Please note previous releases might function in slightly different ways or not support all features.
If your installation is firmware version 1.x.x please contact support.
If your installation is firmware version 2.x.x please upload to the latest available firmware version.
Firmware is integrated in the content manager software package and available on our website. If your installation is a newer firmware version, please check for an upgraded document on system integration on the website.
See *www.largeluminoussurfaces.com* for more information.

3. Connection to a luminous textile installation

3.1 Physical connection

All supported system integration to a luminous textile is via the ethernet port of the panel(s).

Even though the physical interface on the panel (RJ45, 100Base-T, Auto-MDIX capability) might allow for direct interfacing, it is advised to always connect the panels to a switch. Additionally it is advised to have at least 1 spare port on your switch available to connect a PC for commissioning, programming and possible troubleshooting purposes.

Please note that a WiFi connection between 3rd party device and luminous textile network is possible, but might affect the reliability of the connection and therefore triggering/control.

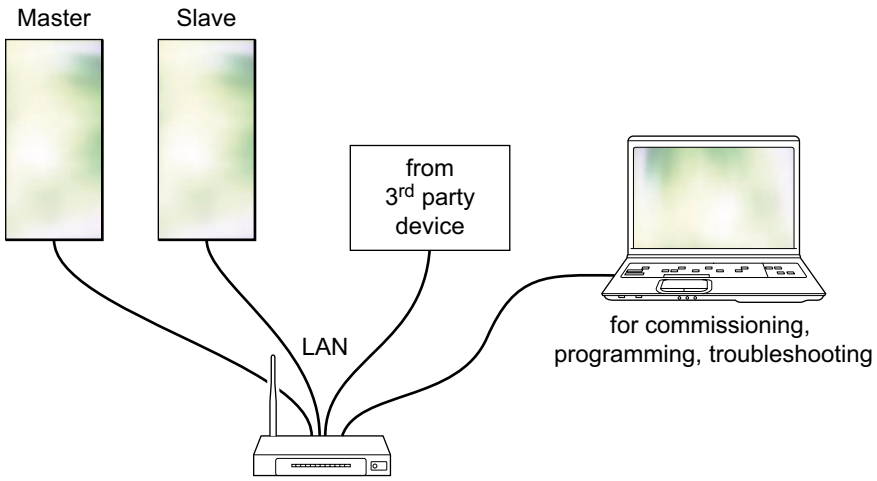

Figure 1: Default setup with luminous panels.

3.2 LAN / subnet settings

It is strongly advised to test your integration by connecting your integration devices on the same LAN, within the same subnet. Large Luminous Surfaces can only support on system integration between the 3rd party device and the panels when devices are in the same subnet.
Once this is working, IT departments can help you to route the required signal through their network.

Luminous textile panels are shipped with DHCP enabled. On the panels webserver (administrator settings page) the panel can be given a fixed IP address/subnet mask / gateway if required. Please ensure to save settings.

Note:

- Many control systems will require you to work with a known IP address of the panel. Using a fixed IP address (or DHCP reservation) is therefore advised when making an integrated solution.
- After changing a physical connection (from one DHCP server to another) a reboot of the panel is required.

The IP addresses of a panel can be set on the

Settings > Control > Netwerk settings section.

See *Chapter 4* for more information or consult the Content Manager manual.

4. Luminous textile panel settings

Each luminous textile panel has an integrated webserver which allows for control and configuration of the luminous textile using your favorite web-browser on your PC or mobile system via user friendly websites.

IP addresses of the panel can be found using the Content Manager Software. Simply discover the network and click the "open control page" icon from the Content Manager software, or type the IP address of a panel in a browser you to open the page and browse to the required page to adjust settings. As the firmware updating is done via the Content Manager Software too, please ensure you are using version 2.5.x version of the software.

Note:

- Please check *www.largeluminoussurfaces.com/software* for the latest release.
- Please refer to the Content Manager Software manual for more information about the use of the software. *www.largeluminoussurfaces.com/content/downloads*

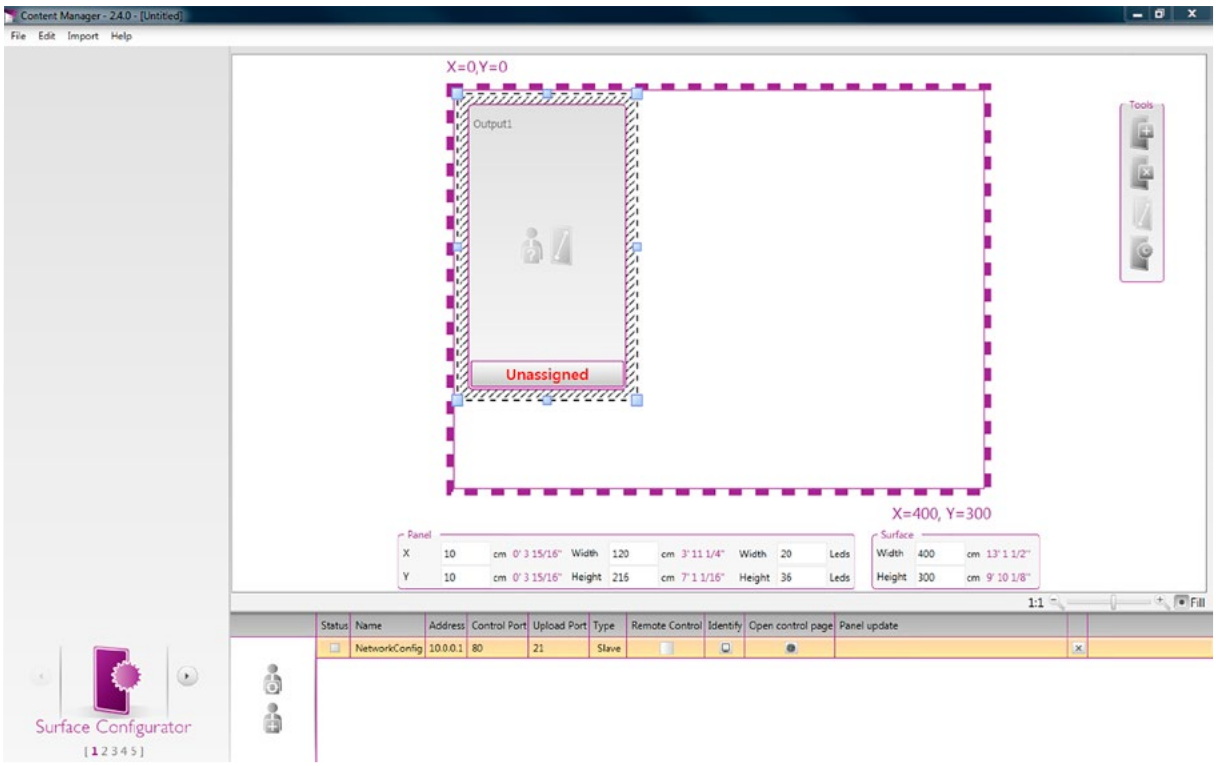

Figure 2: Content Manager software - Surface configurator.

In this document **textual links** are used and written **bold**.
These textual links are the buttons or icons you need to press or select to bring you to the relevant selection.
Please see the screenshots below to get a visual of the user interface you will encounter when you follow these links.

4.1 Home page

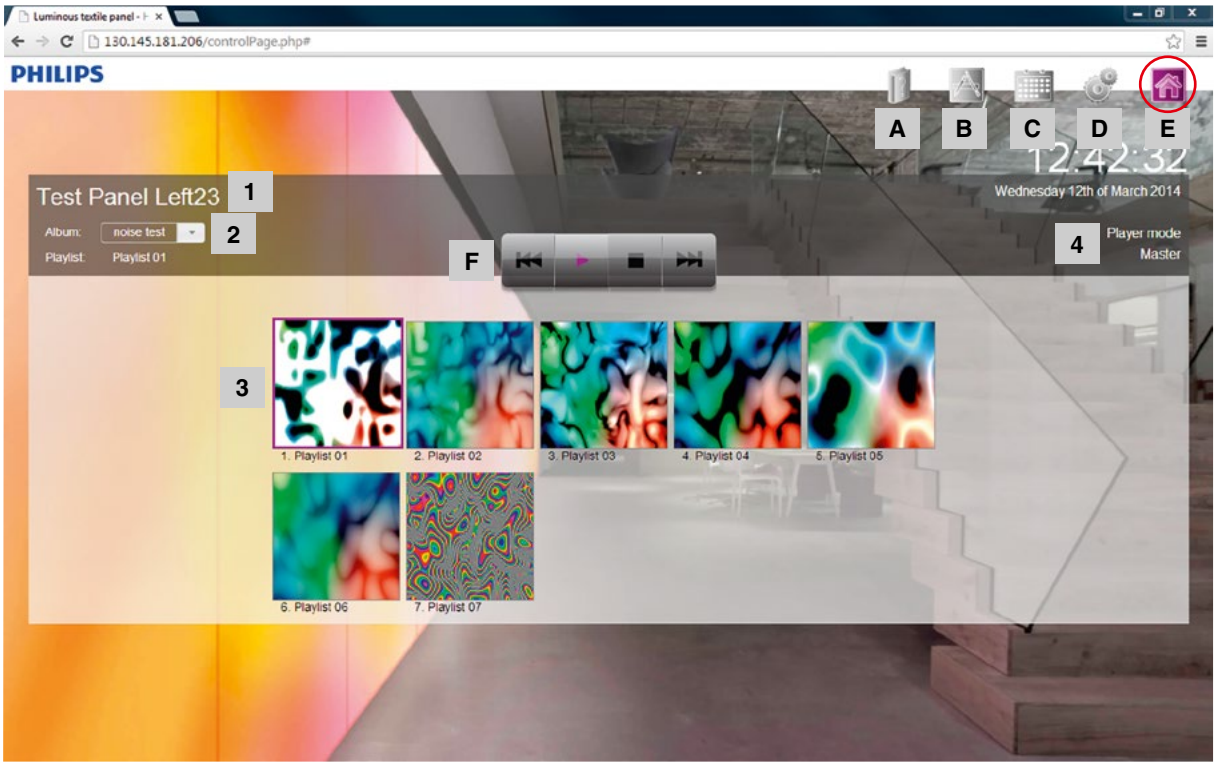

Figure 3: Default setup with luminous panels.

A	**User manual link**: Shows all product related documents
B	**Application**: Shows the available applications. Default login: admin/admin
C	**Scheduler**: Shows you the currently active schedule
D	**Settings**: Default login: admin/admin
E	**Home**: Default landing page / standard control page
F	**Control buttons > Previous playlist, Play, Stop, Next playlist**
1	Current playing album and album selection (show *streaming* in streaming mode)
2	**Home > select Album**
3	**Home > select Playlist** (any of the thumbnails)
4	Play mode: Indicates the play and operation mode for this panel

4.2 Settings page (control section)

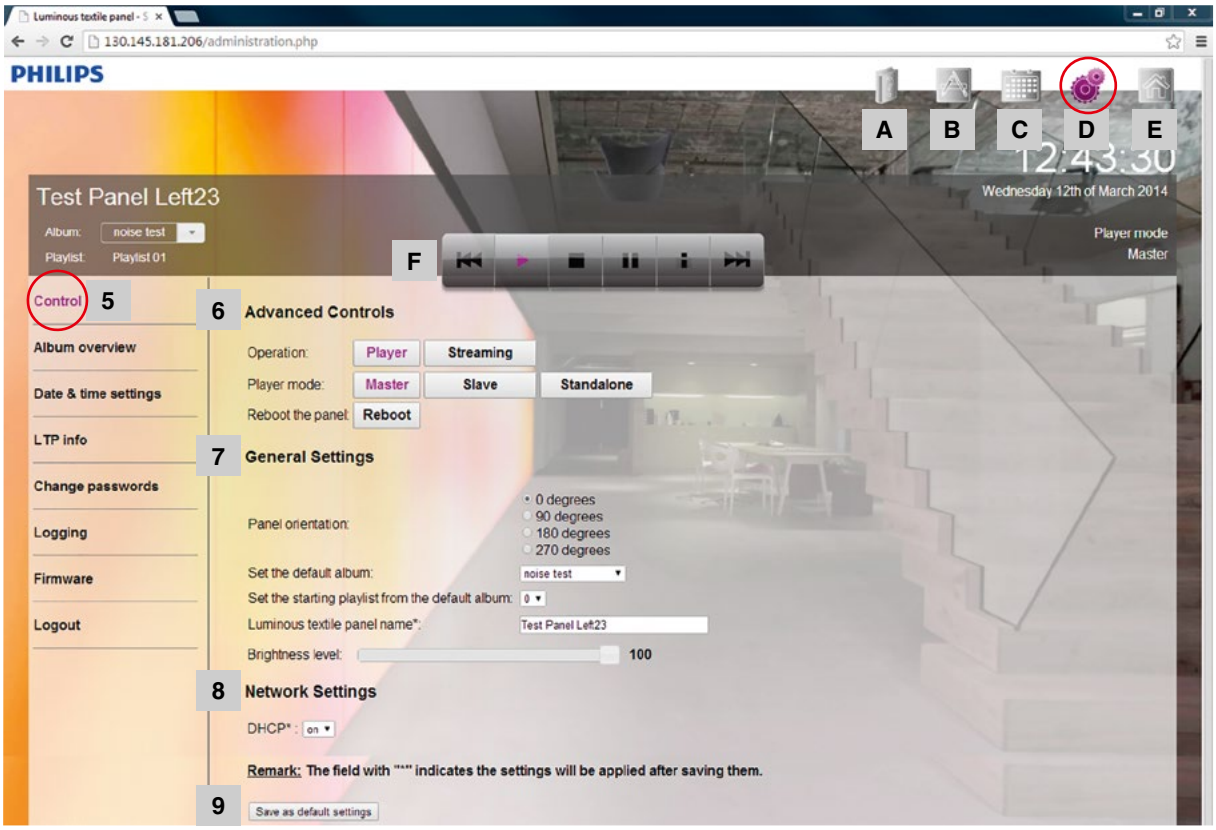

Figure 4: Settings page (Control section).

A	**User manual link**: Shows all product related documents
B	**Application**: Shows the available applications. Default login: admin/admin
C	**Scheduler**: Shows you the currently active schedule
D	**Settings**: Default login: admin/admin
E	**Home**: Default landing page / standard control page
F	**Settings > Control buttons > Previous playlist, Play, Stop, Pause, Identify, Next playlist**
5	**Settings > Control**
6	**Settings > Control > Advanced Controls**
7	**Settings > Control > General Settings**
8	**Settings > Control > Network Settings**
9	**Settings > Control > Save as default settings**

4.3 Settings page (LTP info section)

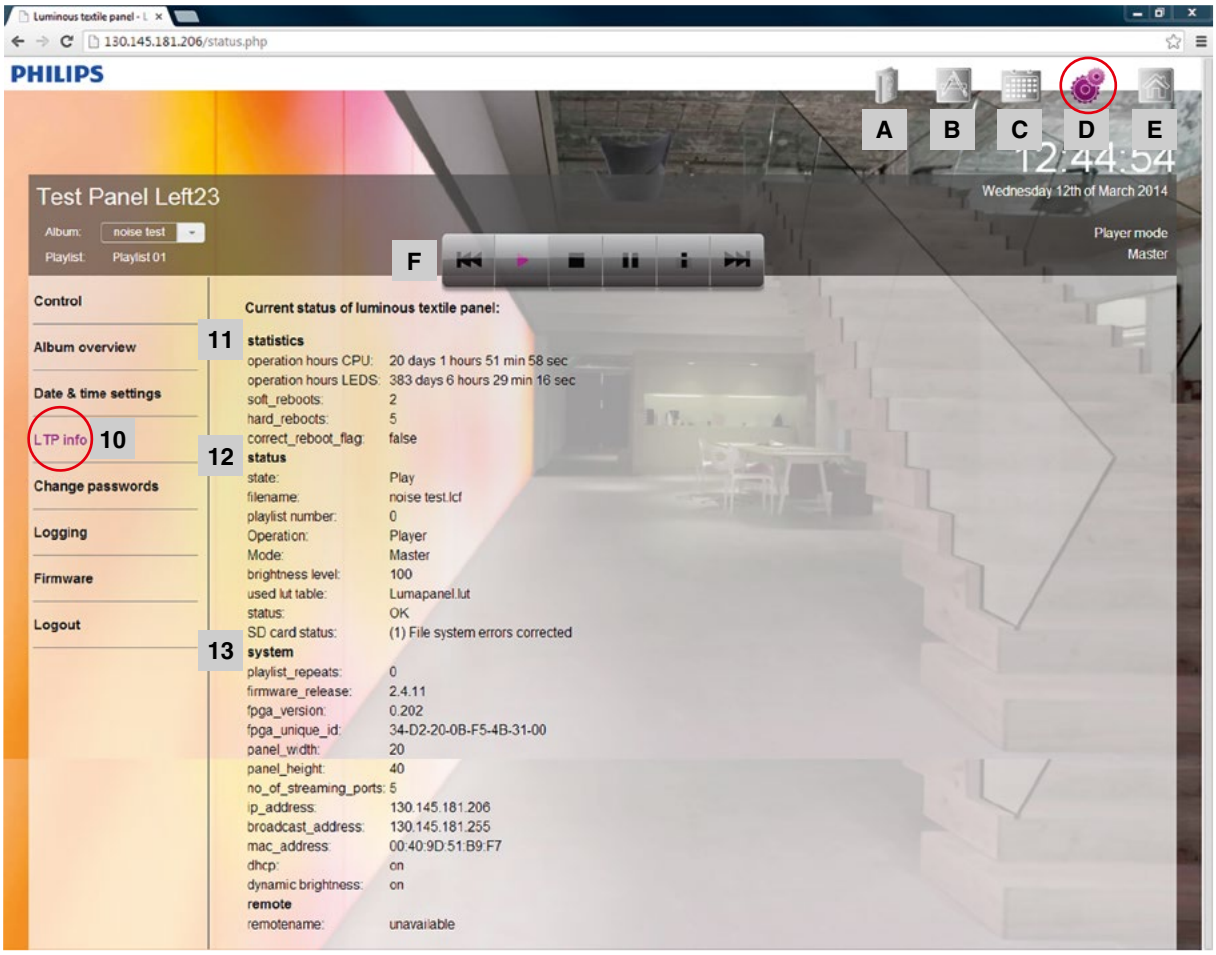

Figure 5: Settings page (LTP info section).

A	**User manual link**: Shows all product related documents
B	**Application**: Shows the available applications. Default login: admin/admin
C	**Scheduler**: Shows you the currently active schedule
D	**Settings**: Default login: admin/admin
E	**Home**: Default landing page / standard control page
F	**Settings > Control buttons > Previous playlist, Play, Stop, Pause, Identify, Next playlist**
10	**Settings > LTP info**
11	**Settings > LTP info > statistics**
12	**Settings > LTP info > status**
13	**Settings > LTP info > system**

4.4 Applications page

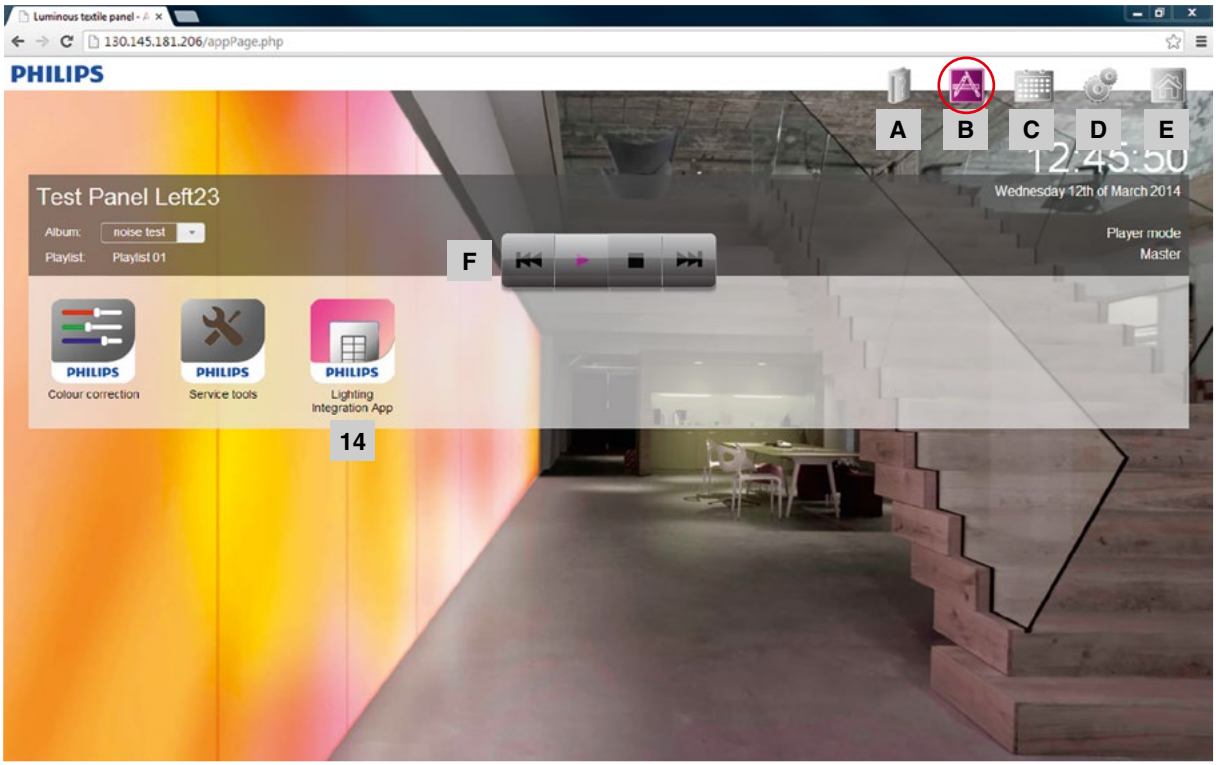

Figure 6: Applications page.

A	**User manual link**: Shows all product related documents
B	**Application**: Shows the available applications. Default login: admin/admin
C	**Scheduler**: Shows you the currently active schedule
D	**Settings**: Default login: admin/admin
E	**Home**: Default landing page / standard control page
F	**Control buttons > Previous playlist, Play, Stop, Next playlist**
14	**Applications > Lighting integration app**

4.5 Lighting integration page

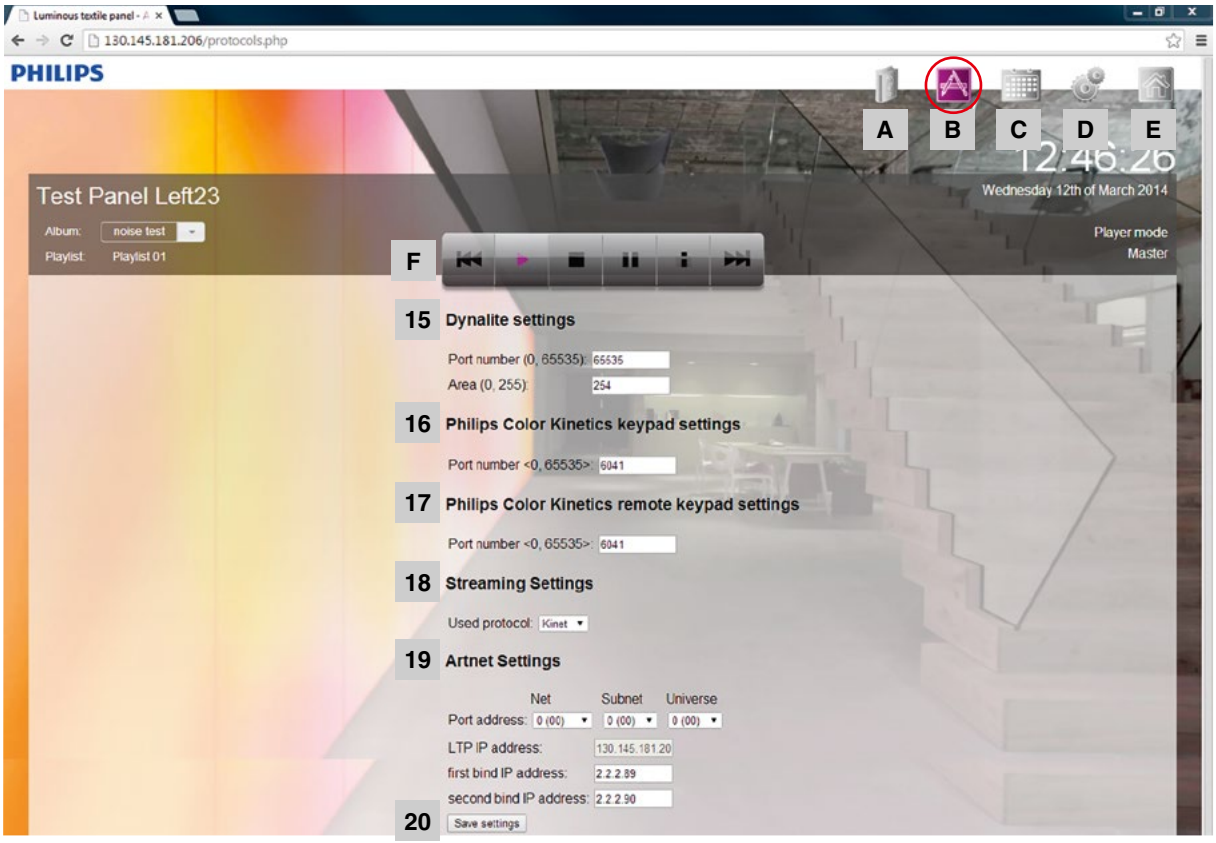

Figure 7: Lighting integration app.

A	**User manual link:** Shows all product related documents
B	**Application**: Shows the available applications. Default login: admin/admin
C	**Scheduler**: Shows you the currently active schedule
D	**Settings**: Default login: admin/admin
E	**Home**: Default landing page / standard control page
F	**Control buttons > Previous playlist, Play, Stop, Next playlist**
15	**Applications > Lighting integration app > Dynalite settings**
16	**Applications > Lighting integration app > Philips Color Kinetics Keypad settings**
17	**Applications > Lighting integration app > Philips Color Kinetics remote Keypad settings**
18	**Applications > Lighting integration app > Streaming settings**
19	**Applications > Lighting integration app > Art-Net Settings**
20	**Applications > Lighting integration app > Save settings**

5. Triggering the on board playback system

5.1 Default control

The luminous textile panel features a per panel integrated playback system. This allows for playback of different types of content, arranged as one or more playlists per album, and of course multiple albums can be present.

To give easy control of this to users, a user friendly built-in website has been integrated.

When having a multiple panel installation the 'master panel' is the panel in charge of all in the panels in this network. In a single network only one master should be present, see installation instructions for more details.

For a multipanel installation, only the website of the master panel needs to be accessed for controlling the complete luminous textile installation.

This page can be accessed / found by

- using the DiscoverMe LTP app on a smartdevice on the same network
- discovering panels on the network using the Content Manager software;
- browsing to the (known from installer) IP address of the masterpanel using a favorite web-browser on your PC or mobile system.

See our documentation at *www.largeluminoussurfaces.com/content/downloads* for more information on the above.

On the homepage simply click a playlist to start

Home > select Playlist

Or to select a different album

Home > select Album

Beside this you can use the control buttons for additional control

Control buttons > Previous playlist, Play, Stop, Next playlist

In case you are not sure about the IP address of the panel, browse to

Settings > LTP info > system

and locate 'ip_address' in the menu.

5.2 HTTP GET command set

The built-in website uses 'HTTP GET' commands for control. Any external device which sending the same commands can be used to control the luminous textile. This can be in example a manual action in a browser, or a custom script on a PC.

The supported messages are equal to the common commands available via

Home > select Playlist

Home > select Album

Control buttons > Previous playlist, Play, Stop, Next playlist

Settings > Control > Advanced Controls (operation mode only)

Settings > Control > General Settings (brightness only)

Settings > Control buttons > Previous playlist, Play, Stop, Pause, Identify, Next playlist

The syntax to recall those actions can be found in *Figure 8*:

In all examples the IP address of the master panel is

IP address: 192.168.2.100

In this example the panel has two albums uploaded via the Content Manager software,

Album_01.lcf

Album_02.lcf

Note:

- Many control systems will require you to work with a known IP address of the panel. Using a fixed IP address (or DHCP reservation) is therefore advised when making an integrated solution.
- After changing a physical connection (from one DHCP server to another) a reboot of the panel is required.
- The Album name is entered in the Content Converter (3) section of the Content Manager software

Type	Command (description)
	The following commands are typically only send to the master panel. The master panel addresses the change to all slaves.
Start	http://192.168.2.100/control.php?command=Start
	Start to play the first playlist in current album (player mode only)
Stop	http://192.168.2.100/control.php?command=Stop
	Stop playback. LTP goes to stand by (player mode only)
Next	http://192.168.2.100/control.php?command=Next
	Play next playlist in the current album. If the last playlist is playing, continue playing this last playlist (player mode only)
Previous	http://192.168.2.100/control.php?command=Prev
	Play previous playlist in the current album. If the first playlist is playing, continue playing this first playlist (player mode only)
Pause	http://192.168.2.100/control.php?command=Pause
	Pause / Resume current image (player mode only)
GoTo	http://192.168.2.100/control.php?command=Playlist&playlist=2
	Start to play playlist 2 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
GoTo	http://192.168.2.100/control.php?command=File&file=Album_01.lcf&playlist=2
	Start to play playlist 2 in the 'Album_01' album. Album name is case sensitive. Note that playlist 0 is the first playlist in the file (player mode only)
Intensity	http://192.168.2.100/control.php?command=Brightness&value=90
	Set the intensity of the luminous textile in a 0-100% range (value can be 0-100). Note that 0 is minimum intensity, not off (player mode only)
	The following commands are valid for the addressed panel only. Send to master and slave panels if required.
Identify	http://192.168.2.100/control.php?command=Identify
	Show the test image on the panel. Only the addressed panel will react. (player mode only)
Streaming	http://192.168.2.100/control.php?command=Streaming
	Change the luminous textile to streaming mode. (to be used from player mode)
Player	http://192.168.2.100/control.php?command=Player
	Change the luminous textile to player mode and start the playlist last playing. If there was no playlist playing the first playlist in the last used album (to be used from streaming mode)
Intensity	http://192.168.2.100/control.php?command=Brightness&value=90
	Set the intensity of the luminous textile in a 0-100% range (value can be 0-100). Note that 0 is minimum intensity, not off (streaming mode only)

Figure 8: HTTP integration command set.

Note:

- Please ensure the following commands are send to the (IP address of) the master panel of your installation
- All commands are case sensitive.

5.3 TCP commands

Many control systems can output TCP commands, but no HTTP GET commands.
However a HTTP GET command is send over the network as TCP command.

In all examples the IP address of the master panel is

IP address: 192.168.2.100

In all examples the IP address of the 3rd party controller or PC is

IP address: 192.168.2.99

In this example the panel has two albums uploaded via the Content Manager software,

Album_01.lcf

Album_02.lcf

Note:

- Many control systems will require you to work with a known IP address of the panel. Using a fixed IP address (or DHCP reservation) is therefore advised when making an integrated solution.
- After changing a physical connection (from one DHCP server to another) a reboot of the panel is required.
- The Album name is entered in the Content Converter (step 3) section of the Content Manager software.

Type	Command (description)
	The following commands are typically only send to the master panel. The master panel addresses the change to all slaves.
Start	GET /control.php?command=Start HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Start to play the first playlist in current album (player mode only)
Stop	GET /control.php?command=Stop HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Stop playback. LTP goes to stand by (player mode only)
Next	GET /control.php?command=Next HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Play next playlist in the current album. If the last playlist is playing, continue playing this last playlist (player mode only)
Previous	GET /control.php?command=Prev HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Play previous playlist in the current album. If the first playlist is playing, continue playing this first playlist (player mode only)
Pause	GET /control.php?command=Pause HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Pause / Resume current image (player mode only)
GoTo	GET /control.php?command=Playlist&playlist=2 HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Start to play playlist 2 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
GoTo	GET /control.php?command=File&file=Album_01.lcf&playlist=2 HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Start to play playlist 2 in the 'Album_01' album. Album name is case sensitive. Note that playlist 0 is the first playlist in the file (player mode only)
Intensity	GET /control.php?command=Brightness&value=90 HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Set the intensity of the luminous textile in a 0-100% range (value can be 0-100, the example use "90"). Note that 0 is minimum intensity, not off (player mode only)
	The following commands are valid for the addressed panel only. Send to master and slave panels if required.
Identify	http://192.168.2.100/control.php?command=Identify HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Show the test image on the panel. Only the addressed panel will react. (player mode only)
Streaming	GET /control.php?command=Streaming HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Change the luminous textile to streaming mode. (to be used from player mode)
Player	GET /control.php?command=Player HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Change the luminous textile to player mode and start the playlist last playing. If there was no playlist playing the first playlist in the last used album (to be used from streaming mode)
Intensity	GET /control.php?command=Brightness&value=90 HTTP/1.1\r\nHost: 192.168.2.99\r\n\r\n
	Set the intensity of the luminous textile in a 0-100% range (value can be 0-100, the example use "90"). Note that 0 is minimum intensity, not off (streaming mode only)

Figure 9: TCP integration command set.

Note:

- Please ensure the following commands are send to the (IP address of) the master panel of your installation
- All commands are case sensitive.

5.3.1 Example of TCP integration using Pharos control system

Pharos equipment is often used in Philips projects. The Pharos system can be easy used to trigger the luminous textile.

Within Pharos, ensure the controller's ethernet port (i.e. Bus 1) is opened on TCP port 80. See *Figure 10*:

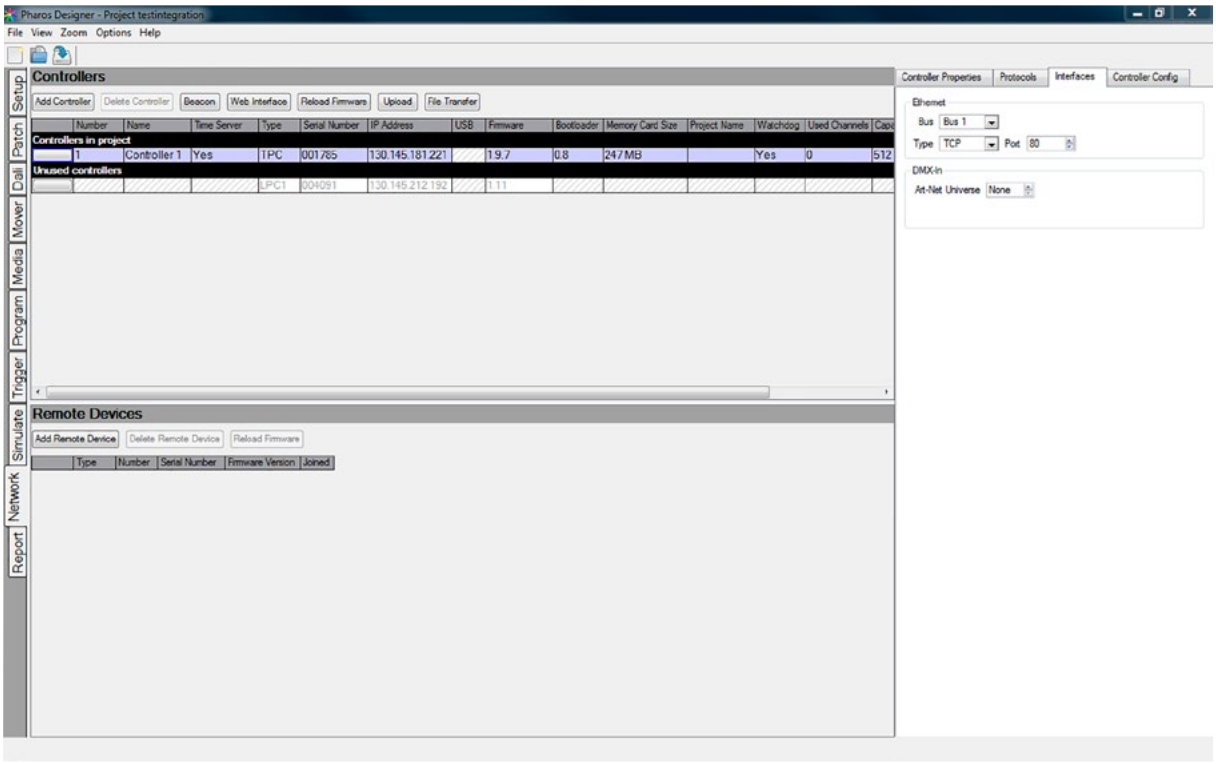

Figure 10: Setting up Pharos controller ethernet port.

Note:

- You might get a warning that this setting can clash with the in the Pharos device build in web server. This Pharos web server setting can be changed in the 'controller config' tab if required, but experience shows this is not in all cases required.

At the trigger tab, ensure the Ethernet output is sending to the luminous textile master panel's IP address, and the protocol and bus are correctly specified.
For the trigger data field, click edit button and use the exact syntax as described in *Chapter 5.3*. See *Figure 11*:

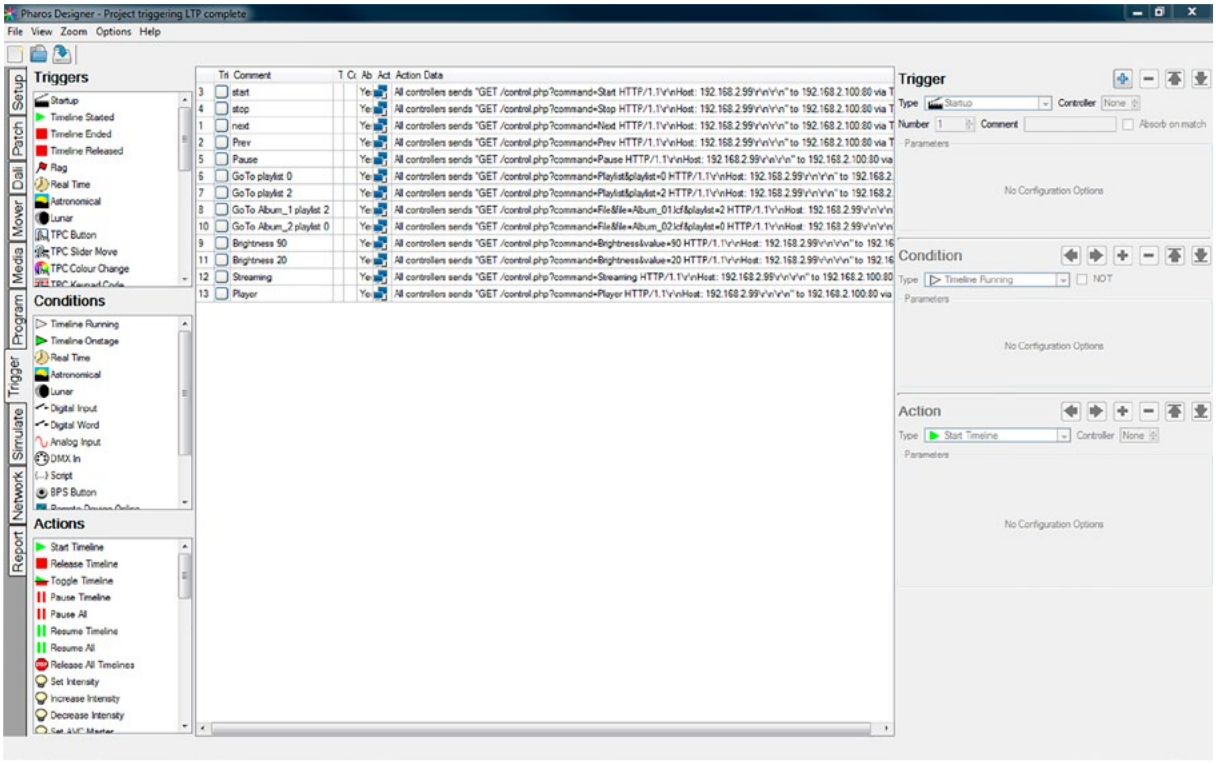

Figure 11: Sending triggers to luminous textile.

Note:

- Please ensure the following commands are send to the (IP address of) the master panel of your installation
- All commands are case sensitive.

Contact support if you would like to receive this test file.

5.4 Philips Dynalite Dynet commands

Philips Dynalite is an advanced system for office and retail lighting control. The luminous textile can be controlled by recalling presets to an area, where the presets will correspond to playlists.

A Philips Dynalite ethernet gateway is required to control the luminous textile.
Note that integration takes place with Philips Dynalites Dynet commands (ethernet based), not with the RS485 based Philips Dynalite protocol.

Philips Dynalite equipment, including the ethernet gateway, should be configured before use. It will not integrate with the luminous textile 'out of the box'. The luminous textile will listen to a subset containing some logical messages (mentioned in *Figure 12*) for a specified area.

As both systems can be freely configured, please note the area and port number.

Gateway configuration:	UDP mode	
Port number: [0-65535]	_____	{*note the used port number here*}
Area number:[0-255]	_____	{*note the used area number here*}

On the luminous textile these parameters can be specified on

Applications > Lighting integration app> Dynalite settings

Note:

- The communication will happen via a UDP broadcast from the gateway on its subnet, please ensure the luminous textile and gateway share the same subnet.
- Please contact your Philips Dynalite support for question on setting this the Philips Dynalite system.

Type	Dynalite	Sync	Area	3rd byte	Opcode	5th byte	6th byte	7th byte	Checksum
Stop	Off	1C	Area	(xx)	**04**	(xx)	(xx)	Join	Checksum
		Start to play the first playlist in current album (player mode only)							
Dim Down	Decrement	1C	Area	(xx)	**05**	(xx)	(xx)	Join	Checksum
		Decrease intensity with 10% (player mode only)							
Dim Up	Increment	1C	Area	(xx)	**06**	(xx)	(xx)	Join	Checksum
		Increase intensity with 10% (player mode only)							
Intensity	Area to level	1C	Area	(level)	**79**	00	00	Join	Checksum
		Set the intensity of the luminous textile in a 1-100% range (value between 01-FF, where FF is minimum intensity, 01 is maximum intensity)							
Playlist 1	Preset 1	1C	Area	(xx)	**00**	(xx)	**00**	Join	Checksum
		Start to play playlist 0 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)							
Playlist 2	Preset 2	1C	Area	(xx)	**01**	(xx)	**00**	Join	Checksum
		Start to play playlist 1 in the current album. *(see preset 1 notes)*							
Playlist 3	Preset 3	1C	Area	(xx)	**02**	(xx)	**00**	Join	Checksum
		Start to play playlist 2 in the current album. *(see preset 1 notes)*							
Playlist 4	Preset 4	1C	Area	(xx)	**03**	(xx)	**00**	Join	Checksum
		Start to play playlist 3 in the current album. *(see preset 1 notes)*							
Playlist 5	Preset 5	1C	Area	(xx)	**0A**	(xx)	**00**	Join	Checksum
		Start to play playlist 4 in the current album. *(see preset 1 notes)*							
Playlist 6	Preset 6	1C	Area	(xx)	**0B**	(xx)	**00**	Join	Checksum
		Start to play playlist 5 in the current album. *(see preset 1 notes)*							
Playlist 7	Preset 7	1C	Area	(xx)	**0C**	(xx)	**00**	Join	Checksum
		Start to play playlist 6 in the current album. *(see preset 1 notes)*							
Playlist 8	Preset 8	1C	Area	(xx)	**0D**	(xx)	**00**	Join	Checksum
		Start to play playlist 7 in the current album. *(see preset 1 notes)*							
Playlist 9	Preset 9	1C	Area	(xx)	**00**	(xx)	**01**	Join	Checksum
		Start to play playlist 8 in the current album. *(see preset 1 notes)*							
Playlist 10	Preset 10	1C	Area	(xx)	**01**	(xx)	**01**	Join	Checksum
		Start to play playlist 9 in the current album. *(see preset 1 notes)*							
					…		**…**		
Playlist 16	Preset 16	1C	Area	(xx)	**0D**	(xx)	**01**	Join	Checksum
		Start to play playlist 15 in the current album. *(see preset 1 notes)*							
Playlist 17	Preset 17	1C	Area	(xx)	**00**	(xx)	**02**	Join	Checksum
		Start to play playlist 16 in the current album. *(see preset 1 notes)*							
					…		**…**		
					…		**…**		

Figure 12: Dynalite integration command set.

Note:

- (xx) ignored byte
- Area use area in both luminous textile and Dynalite system, note only 1 area can be used
- … logical continuation of the Opcode (4th byte) and preset bank (6th byte)

5.5 Philips Color Kinetics Keypad integration

5.5.1 Philips Color Kinetics Ethernet Controller Keypad

When a Philips Color Kinetics Ethernet Controller Keypad is connected to the luminous textile network it can be used to control the luminous textile.
Please note Philips Color Kinetics hardware has by default a fixed IP address in the 10.x.x.x / 255.0.0.0 range. Please use the 'QuickPlay Pro' software to alter this.

Note:

- Use either the Keypad, or the Remote Keypad (*5.5.2*) in a single installation.

No additional configurations are required to the panel.

Color Kinetics operates by default on port 6041. On you luminous textile panel gives the opportunity to change this in the Lighting Integration App in case required.

Applications > Lighting integration app> Philips Color Kinetics Keypad settings

For more information on the Philips Color Kinetics keypad please visit

http://www.colorkinetics.com

http://www.colorkinetics.com/ls/controllers/enetkeypad/

http://www.colorkinetics.com/ls/controllers/quickplaypro/

Type	Command (description)
Show 1	Start to play playlist 0 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 2	Start to play playlist 1 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 3	Start to play playlist 2 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 4	Start to play playlist 3 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 5	Start to play playlist 4 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 6	Start to play playlist 5 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 7	Start to play playlist 6 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 8	Start to play playlist 7 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Dim up	Increase intensity with 10% (player mode only)
Dim down	Decrease intensity with 10% (player mode only)
Off	Stop playback. LTP goes to stand by (player mode only)

Figure 13: Philips Color Kinetics Ethernet controller keypad integration functionality.

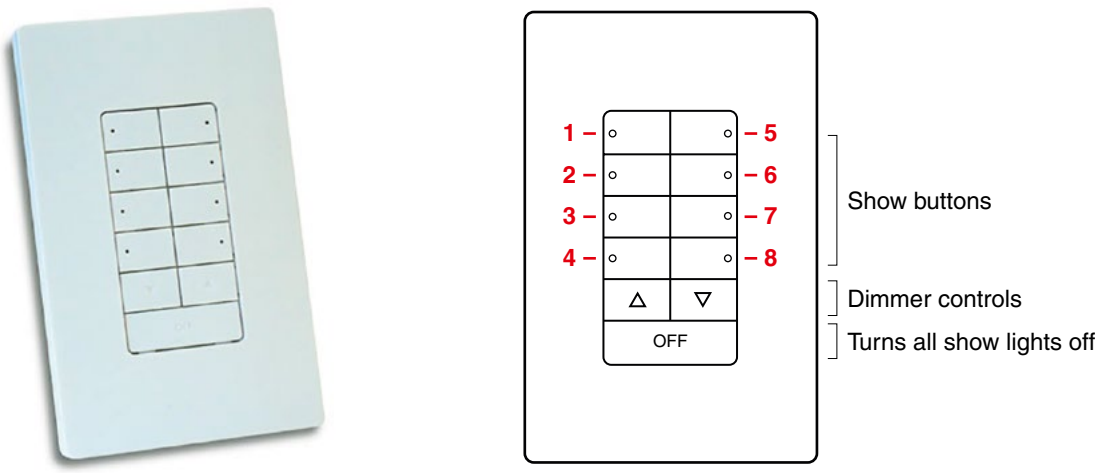

Figure 14: Philips Color Kinetics Ethernet controller keypad.

5.5.2 Philips Color Kinetics Remote Keypad

When the Philips Color Kinetics Remote Keypad app installed on an apple or android smart device, and the device is connected to the luminous textile network it can be used to control the luminous textile.

Note:

- Use either the Keypad (*5.5.1*), or the Remote Keypad in a single installation

Color Kinetics operates by default on port 6041. On you luminous textile panel gives the opportunity to change this in the Lighting Integration App in case required.

Applications > Lighting integration app> Philips Color Kinetics Remote Keypad settings

For more information on the Philips Color Kinetics Remote Keypad please visit

http://www.colorkinetics.com

http://www.colorkinetics.com/ls/controllers/remotekeypad/

Type	Command (description)
Show 1	Start to play playlist 0 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 2	Start to play playlist 1 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 3	Start to play playlist 2 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 4	Start to play playlist 3 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 5	Start to play playlist 4 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 6	Start to play playlist 5 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 7	Start to play playlist 6 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Show 8	Start to play playlist 7 in the current album. If no such playlist exist the panel will ignore the command. Note that playlist 0 is the first playlist in the file (player mode only)
Dim up	Increase intensity with 10% (player mode only)
Dim down	Decrease intensity with 10% (player mode only)
Off	Stop playback. LTP goes to stand by (player mode only)

Figure 15: Philips Color Kinetics Remote Keypad integration functionality.

Figure 16: Philips Color Kinetics Remote Keypad.

6. Integration via streaming protocols

The Luminous Textile can be used in a "streaming mode". In this case panel is reacting to "DMX over Ethernet" messages for pixel precise control. The protocols supported are Art-Net and KiNET, those are further explained in next paragraphs.

The panel can be activated to listen to incoming messages if the operation mode is changed to "Streaming".

This can be done via de settings page

Settings > Control > Advanced Controls

or via an external trigger (see *Chapter 5.2/ 5.3*)

The panel does support to be used using the on board playback system or the streaming input at different moments in time. Switching between the two operating modes can take up to 10 seconds. During these 10 seconds the visual output of the panels might look disturbed.

Changing the operation mode on the master panel will automatically change the operation mode of all slave panels in the system. If "streaming" should be the operation mode to default to on startup, please press the "save as default" button.

Settings > Control > Save as default settings

Note that "Save as default" action only applies to the specific panel the "save as default" action is performed on. If for a multi panel installation "Streaming" should be the default setting, "save as default" action should be performed on all individual panels.

6.1 Art-Net

6.1.1 Introduction

The Art-Net protocol is developed by Artistic Licence, and published in the public domain. Visit *http://www.artisticlicence.com* for more details on the specification. As the protocol is available in the public domain a wide range of companies is creating Art-Net compatible controllers.
The luminous textile is supporting Art-Net 3 standard. (@ max 50 fps). The panel is compatible with controllers outputting Art-Net version 1, 2 or 3.

6.1.2 Limitations

Note:

- Panel name and IP address can only be set on the luminous textile panel.
- Attempting to change the name via a 3rd party device or software might lose the connection with the panel. A reboot of the panel and 3rd party device or software might be required to get the panel discovered again.
- The maximum supported frame rate is 50 fps.
- On by luminous textile used universes and subnets no Art-Net data intended for other devices should be present.
- Panels will be discovered both in streaming and player mode, regardless of KiNET or Art-Net mode
- Latency <<2 frames by definition. Exact latency on request, please contact support.

6.1.3 DMX table

Controlling the luminous textile is done per node ("pixel").
For every node 3 DMX channels are used

1st channel Red intensity

2nd channel Green intensity

3rd channel Blue intensity

The "brightness level" on the panel itself can still be used for master intensity. This means that even for low light outputs the full resolution can be used.

Use

Settings > Control > General Settings > Brightness level

or an external trigger (see *Chapter 5.2/ 5.3*)

6.1.4 Mapping order

The order of the nodes follows "reading order". From left to right, top to bottom, node 1, node 2, etc. This continues for a complete number of lines to fill a universe (max 170 nodes).
After this the first node (by definition on the left of the panel) is again the first node in the next universe. This continues till the complete panel is filled. The last universe might be identical to the previous universe, or contain a smaller number of lines.

If a panel is used in landscape, please check that the rotation of the panel on the settings page is properly set.

Settings > Control > General Settings > Panel orientation

This will ensure the height (h) and width (w) of the panel are consistent with the physical installation.
The panels height and width can be found by dividing the physical dimension of the panels (in cm) by 6, or by looking it up in

Settings > LTP info > status > panel_width

Settings > LTP info > status > panel_height

Visually the patching can be represented as in *Figure 17*:

(w) = width in nodes (or width in cm / 6)
(h) = height in nodes (or height in cm / 6)
(a) = number of rows within a "full" universe (depending (w)
(b) = number of rows in the panels last universe (depending (h)

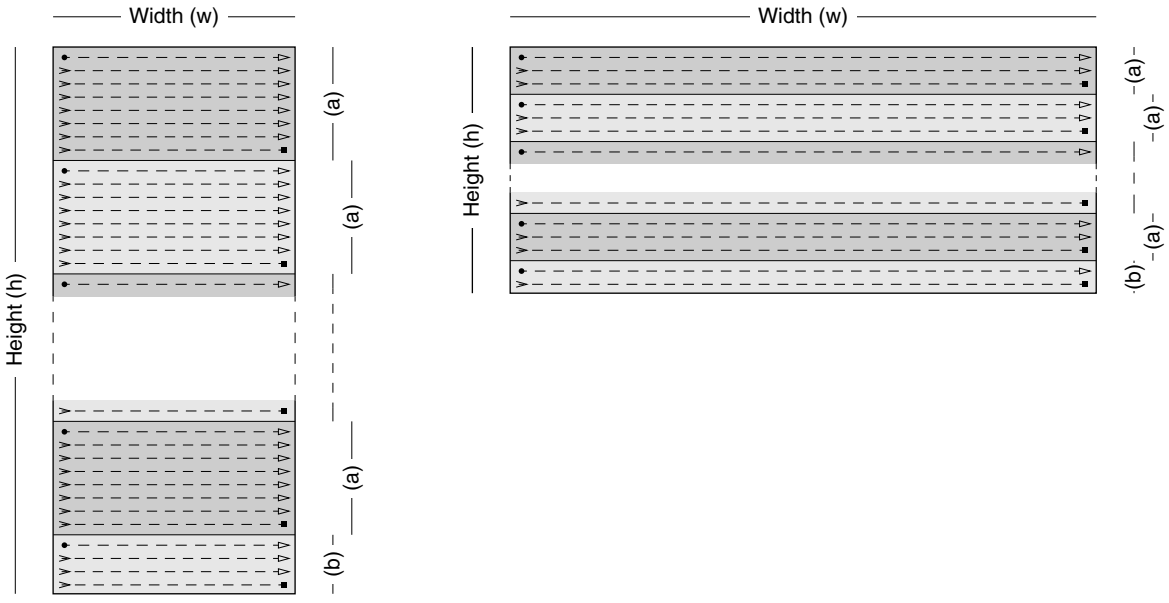

Figure 17: Visual representation of the patching.

(a) is depending on the panels width and can be found in *Figure 18*.
(b) can be calculated by taking (h) and subtracting (a) until this ends up at a number equal or between 0 and (a)-1.

W	12	13	14	15	16-17	18	19-21	22-24	25-28	29-34	35-42	43-56	57-72
a	14	13	12	11	10	9	8	7	6	5	4	3	2

Figure 18: Panel width vs. lines per universe.

6.1.5 Mapping examples

Example 1: Panel dimension 216 cm height by 120 cm width (portrait installation)

1: Define width and height

Option 1:
(w) = width in nodes (or width in cm / 6)
(w) = 120/6 = 20 nodes
(h) = height in nodes (or height in cm / 6)
(h) = 216/6 = 36 nodes

Option 2: Go to Setting -> LTP info page and look under system.
Settings > LTP info > status > panel_width
Settings > LTP info > status > panel_height

2: Lookup (a) in table *Figure 18*: panel width vs. lines per universe.
(a) = 8

3: Calculate b
(b) = subtracting (a) from (h) until this ends up at a number equal or between 0 and (a)-1.
(b) = (36) – 8-8-8-8 = 4

This panel has 4 universes of each 8x20 nodes, and the 5th universe of 4x20 nodes.

Example 2: Panel dimensions 102 cm height by 180 cm width (landscape installation)

1: Ensure the panel orientation is set to 90'
Settings > Control > General Settings > Panel orientation

2: Define width and height

Option 1:
(w) = width in nodes (or width in cm / 6)
(w) = 180/6 = 30 nodes
(h) = height in nodes (or height in cm / 6)
(h) = 102/6 = 17 nodes

Option 2: Go to Setting -> LTP info page and look under system.
Settings > LTP info > status > panel_width
Settings > LTP info > status > panel_height

3: Lookup (a) in table *Figure 18*: panel width vs. lines per universe.
(a) = 5

4: Calculate b
(b) = subtracting (a) from (h) until this ends up at a number equal or between 0 and (a)-1.
(b) = (17) – 5-5-5 = 3

This panel has 3 universes of each 5x30 nodes, and the 4th universe of 3x30 nodes.

6.1.6 Universes per panel

Typically a panel will require a multiple of universes. See *Figure 19*: Universes required per panel for the number of universes it requires.

(w)	12	13	14	15	16-17	18	19-21	22-24	25-28	29-34	35-42	43-56	57-72
(a)	14	13	12	11	10	9	8	7	6	5	4	3	2
(h)													
12	1	1	1	2	2	2	2	2	2	3	3	4	6
13	1	1	2	2	2	2	2	2	3	3	4	5	7
14	1	2	2	2	2	2	2	2	3	3	4	5	7
15	2	2	2	2	2	2	2	3	3	3	4	5	8
16	2	2	2	2	2	2	2	3	3	4	4	6	8
17-18	2	2	2	2	2	2	3	3	3	4	5	6	9
19-20	2	2	2	2	2	3	3	3	4	4	5	7	10
21-22	2	2	2	2	3	3	3						
23-24	2	2	2	3	3	3	3						
25-26	2	2	3	3	3	3	4						
27	2	3	3	3	3	3	4						
28	2	3	3	3	3	4	4						
29-30	3	3	3	3	3	4	4						
31-32	3	3	3	3	4	4	4						
33	3	3	3	3	4	4	5						
34-36	3	3	3	4	4	4	5						
37-40	3	3	4	4	4	5	5						
40	3	4	4	4	4	5	5						
41-42	3	4	4	4	5	5	6						
43-44	4	4	4	4	5	5	6						
45	4	4	4	5	5	5	6						
46-48	4	4	4	5	5	6	6						
49-50	4	4	5	5	5	6	7						
51-52	4	4	5	5	6	6	7						
53-54	4	5	5	5	6	6	7						
55	4	5	5	5	6	7	7						
56	4	5	5	6	6	7	7						
57-60	5	5	5	6	6	7	8						
61-63	5	5	6	6	7	7	8						
64	5	5	6	6	7	8	8						
65	5	5	6	6	7	8	9						
66	5	6	6	6	7	8	9						
67-70	5	6	6	7	7	8	9						
71-72	6	6	6	7	8	8	9						

Figure 19: Universes required per panel.

6.1.7 Selecting Art-Net mode, Addressing and binding IP address

To activate streaming set the panel to streaming mode

Settings > Control > Advanced Controls

or via an external trigger (see *Chapter 5.2/ 5.3*)

To activate Art-Net as the streaming protocol set the panel to streaming mode and select Art-Net.

Applications > Lighting integration app > Streaming settings

Press save settings after changing the streaming protocol.

The Art-Net specification has a limit of receiving maximum 4 universes per IP address.
To give a device the ability to receive more than 4 universes "bind IP addresses" are introduced in the standard.
As luminous textile panel can use up to 10 universes, it requires 2 bind IP addresses. (additional to the luminous textile panel's IP address)

Fill in valid values for bind IP addresses; ensure the IP addresses that are available on your network.
The binding IP addresses are receiving data only, no additional settings like subnet are required.

Applications > Lighting integration app > Art-Net Settings

Press save settings after changing values.

The start universe for a panel can be set under

Applications > Lighting integration app > Art-Net Settings

As the panel is using Art-Net 3 there are three fields to set,

Net, Subnet and Universe

Note:

- The first universe is universe 00.
- All universes will be automatically incremented to the number of universes the panel consumes.
- All universes in a (binding) IP address will always have its universes in the same net / subnet.
- (If necessary the last universes in a subnet might be left unused, and addressing will jump to the next subnet – universe 00 to continue for this binding IP address)
- All nodes in each universes will start from DMX address 001.

Examples of jumps in universe addressing can be seen in *Figure 20*.

Panel universes count	**9**	**9**	**9**	**9**	**6**	**6**
Start universe (panel IP)	**00-00-00**	**00-00-12**	**00-00-10**	**00-00-07**	**00-00-10**	**00-00-11**
2nd universe (panel IP)	00-00-01	00-00-13	00-00-11	00-00-08	00-00-11	00-00-12
3rd universe (panel IP)	00-00-02	00-00-14	00-00-12	00-00-09	00-00-12	00-00-13
4th universe (panel IP)	00-00-03	00-00-15	00-00-13	00-00-10	00-00-13	00-00-14
5th universe (binding IP 1)	00-00-04	00-01-00	00-01-00*)	00-00-11	00-00-14	00-01-00*)
6th universe (binding IP 1)	00-00-05	00-01-01	00-01-01	00-00-12	00-00-15	00-01-01
7th universe (binding IP 1)	00-00-06	00-01-02	00-01-02	00-00-13		
8th universe (binding IP 1)	00-00-07	00-01-03	00-01-03	00-00-14		
9th universe (binding IP 2)	00-00-08	00-01-04	00-01-04	00-01-00*)		
10th universe (binding IP 2)	00-00-09	00-01-05	00-01-05	00-01-01		

* jumps in the addressing, to have all universes in a (binding) IP address in the same net / subnet.

Figure 20: Universe addressing logic, examples.

6.1.8 Testing and troubleshooting

If the image expected appears upside down, please go to panel orientation and change the rotation 180°.

If the image expected does not show, but a scrambled image shows, please go to panel orientation and check the rotation.

Settings > Control > General Settings > Panel orientation

Testing is optional, but advised as this is an easy way to check your installation.
Artistic Licence is offering a software tool to "DMX Workshop" This software tool will allow checking if panels are correctly setup. Additionally it provides some tests to output data to specific channels to verify your setup.

Download and install the software

http://www.artisticlicence.com/WebSiteMaster/Software/dmxworkshopsetup.msi

Check application note 045 if you encounter issues with starting up the software

http://www.artisticlicence.com/WebSiteMaster/App%20Notes/appnote045.pdf

Open the software and ensure you select the correct network interface.
You should see a window similar as in *Figure 21*:

Figure 21: DMX- Workshop menu.

Press "node list" and press refresh. Unfold where necessary. You should discover all your connected panels (both panel IP and populated binding IP's) and the universe it is set to. See *Figure 22*.

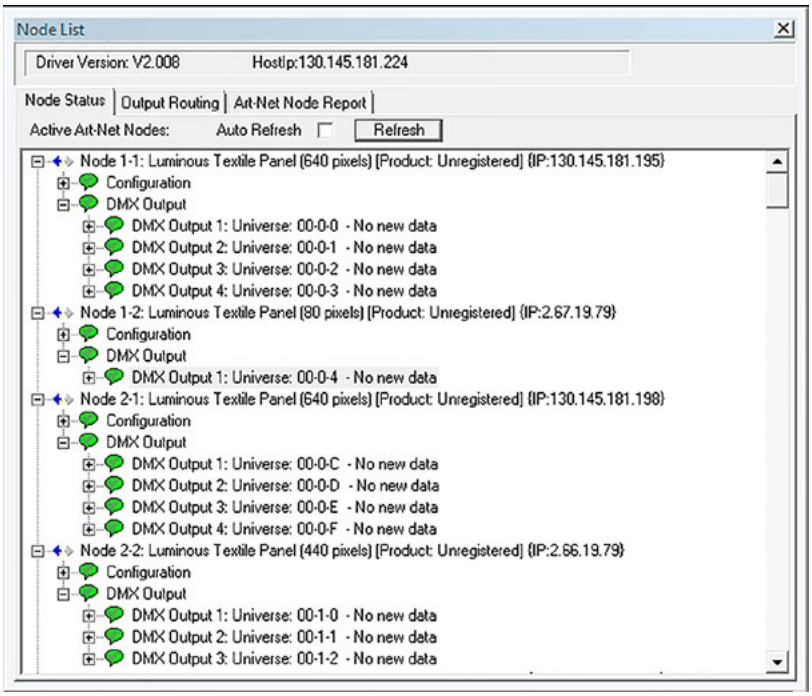
Node List
Driver Version: V2.008
HostIp:130.145.181.224
Node Status
Output Routing
Art-Net Node Report
Active Art-Net Nodes:
Auto Refresh
Refresh
Node 1-1: Luminous Textile Panel (640 pixels) [Product: Unregistered] (IP:130.145.181.195)
Configuration
DMX Output
DMX Output 1: Universe: 00-0-0 - No new data
DMX Output 2: Universe: 00-0-1 - No new data
DMX Output 3: Universe: 00-0-2 - No new data
DMX Output 4: Universe: 00-0-3 - No new data
Node 1-2: Luminous Textile Panel (80 pixels) [Product: Unregistered] (IP:2.67.19.79)
Configuration
DMX Output
DMX Output 1: Universe: 00-0-4 - No new data
Node 2-1: Luminous Textile Panel (640 pixels) [Product: Unregistered] (IP:130.145.181.198)
Configuration
DMX Output
DMX Output 1: Universe: 00-0-C - No new data
DMX Output 2: Universe: 00-0-D - No new data
DMX Output 3: Universe: 00-0-E - No new data
DMX Output 4: Universe: 00-0-F - No new data
Node 2-2: Luminous Textile Panel (440 pixels) [Product: Unregistered] (IP:2.66.19.79)
Configuration
DMX Output
DMX Output 1: Universe: 00-1-0 - No new data
DMX Output 2: Universe: 00-1-1 - No new data
DMX Output 3: Universe: 00-1-2 - No new data

Figure 22: DMX-Workshop node list.

If required, you can control the installation by using the "Dynamic" function under the Transmit DMX. See *Figure 23*:

Note

- Panels will be discovered both in streaming and player mode, regardless of KiNET or Art-Net mode.

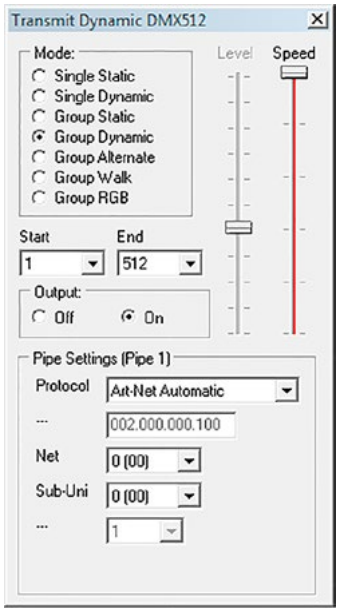

Figure 23: DMX-Workshop transmit dynamic DMX.

For further information about DMX workshop please consult Artistic Licence via *www.artisticlicence.com*.

6.2 KiNET

6.2.1 Introduction

The KiNET protocol is developed by Color Kinetics (now Philips Color Kinetics). It's a proprietary protocol.
Contact *technical.support@colorkinetics.com* for information on licensing.
The luminous textile is supporting the KiNET v2, the 'port out' version.

6.2.2 Limitations

Note:

- Panel name and IP address can only be set on the luminous textile panel.
- Attempting to change the name via a 3rd party device or software like Quick Play Pro might lose the connection with the panel. A reboot of the panel and 3rd party device or software might be required to get the panel discovered again.
- The maximum supported frame rate is 50 fps
- Panels will be discovered both in streaming and player mode, regardless of KiNET or Art-Net mode
- Latency <<2 frames by definition. Exact latency on request, please contact support

6.2.3 DMX table

Controlling the luminous textile is done per node ("pixel").
For every node 3 DMX channels are used

1st channel Red intensity

2nd channel Green intensity

3rd channel Blue intensity

The "brightness level" on the panel itself can still be used for master intensity. This means that even for low light outputs the full resolution can be used.

Settings > Control > General Settings > Brightness level

or via an external trigger (see *Chapter 5.2/ 5.3*)

6.2.4 Mapping order

A complete luminous textile panel will act like a power supply and a number of ports with nodes.
The order of the nodes follows "reading order". From left to right, top to bottom, node 1, node 2, etc. This continues for a complete number of lines to fill a port (max 170 nodes).
After this the first node (by definition on the left of the panel) is again the first node in the next port. This continues till the complete panel is filled. The last port might be identical to the previous universe, or contain a smaller number of lines.

If a panel is used in landscape, please check that the rotation of the panel on the settings page is properly set.

Settings > Control > General Settings > Panel orientation

This will ensure the height (h) and width (w) of the panel are consistent with the physical installation.
The panel's height and width can be found by dividing the physical dimension of the panels (in cm) by 6, or by looking it up in

Settings > LTP info > status > panel_width

Settings > LTP info > status > panel_height

Visually the patching can be represented as in *Figure 24*:

(w) = width in nodes (or width in cm / 6)
(h) = height in nodes (or height in cm / 6)
(a) = number of rows within a "full" port (depending (w)
(b) = number of rows in the panels last port (depending (h)

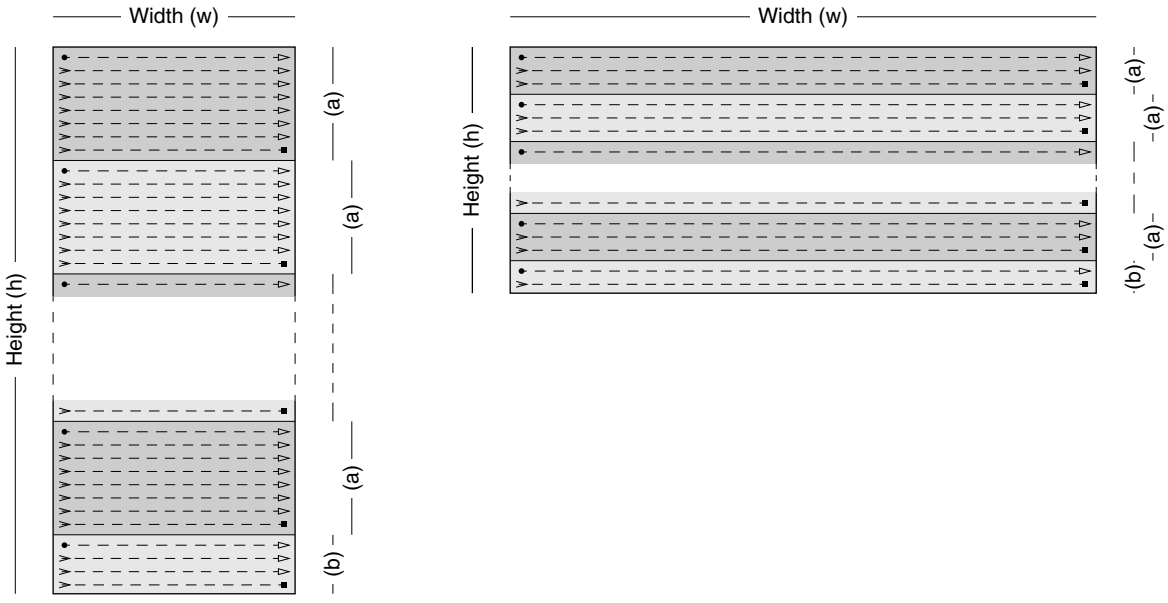

Figure 24: Visual representation of the patching.

(a) is depending on the panels width and can be found in *Figure 25*.
(b) can be calculated by taking (h) and subtracting (a) until this ends up at a number equal or between 0 and (a)-1.

W	12	13	14	15	16-17	18	19-21	22-24	25-28	29-34	35-42	43-56	57-72
a	14	13	12	11	10	9	8	7	6	5	4	3	2

Figure 25: Panel width vs. lines per port.

6.2.5 Mapping examples

Example 1: Panel dimension 216 cm height by 120 cm width (portrait installation)

4: Define width and height

Option 1:
(w) = width in nodes (or width in cm / 6)
(w) = 120/6 = 20 nodes
(h) = height in nodes (or height in cm / 6)
(h) = 216/6 = 36 nodes

Option 2: Go to Setting -> LTP info page and look under system.
Settings > LTP info > status > panel_width
Settings > LTP info > status > panel_height

5: Lookup (a) in table *Figure 25*: panel width vs. lines per port.
(a) = 8

6: Calculate b
(b) = subtracting (a) from (h) until this ends up at a number equal or between 0 and (a)-1.
(b) = (36) – 8-8-8-8 = 4

This panel has 4 ports of each 8x20 nodes, and the 5th port of 4x20 nodes.

Example 2: Panel dimensions 102 cm height by 180 cm width (landscape installation)

1: Ensure the panel orientation is set to 90'
Settings > Control > General Settings > Panel orientation

2: Define width and height

Option 1:
(w) = width in nodes (or width in cm / 6)
(w) = 180/6 = 30 nodes
(h) = height in nodes (or height in cm / 6)
(h) = 102/6 = 17 nodes

Option 2: Go to Setting -> LTP info page and look under system.
Settings > LTP info > status > panel_width
Settings > LTP info > status > panel_height

3: Lookup (a) in table *Figure 25*: panel width vs. lines per port.
(a) = 5

4: Calculate b
(b) = subtracting (a) from (h) until this ends up at a number equal or between 0 and (a)-1.
(b) = (17) – 5-5-5 = 3

This panel has 3 ports of each 5x30 nodes, and the 4th port of 3x30 nodes.

6.2.6 Ports per panel

Typically a panel will require a multiple of ports. See *Figure 26*: Number of ports per panel for the number of ports it requires.

(w)	12	13	14	15	16-17	18	19-21	22-24	25-28	29-34	35-42	43-56	57-72
(a)	14	13	12	11	10	9	8	7	6	5	4	3	2
(h)													
12	1	1	1	2	2	2	2	2	2	3	3	4	6
13	1	1	2	2	2	2	2	2	3	3	4	5	7
14	1	2	2	2	2	2	2	2	3	3	4	5	7
15	2	2	2	2	2	2	2	3	3	3	4	5	8
16	2	2	2	2	2	2	2	3	3	4	4	6	8
17-18	2	2	2	2	2	2	3	3	3	4	5	6	9
19-20	2	2	2	2	2	3	3	3	4	4	5	7	10
21-22	2	2	2	2	3	3	3						
23-24	2	2	2	3	3	3	3						
25-26	2	2	3	3	3	3	4						
27	2	3	3	3	3	3	4						
28	2	3	3	3	3	4	4						
29-30	3	3	3	3	3	4	4						
31-32	3	3	3	3	4	4	4						
33	3	3	3	3	4	4	5						
34-36	3	3	3	4	4	4	5						
37-40	3	3	4	4	4	5	5						
40	3	4	4	4	4	5	5						
41-42	3	4	4	4	5	5	6						
43-44	4	4	4	4	5	5	6						
45	4	4	4	5	5	5	6						
46-48	4	4	4	5	5	6	6						
49-50	4	4	5	5	5	6	7						
51-52	4	4	5	5	6	6	7						
53-54	4	5	5	5	6	6	7						
55	4	5	5	5	6	7	7						
56	4	5	5	6	6	7	7						
57-60	5	5	5	6	6	7	8						
61-63	5	5	6	6	7	7	8						
64	5	5	6	6	7	8	8						
65	5	5	6	6	7	8	9						
66	5	6	6	6	7	8	9						
67-70	5	6	6	7	7	8	9						
71-72	6	6	6	7	8	8	9						

Figure 26: Number of ports per panel.

6.2.7 Selecting KiNET mode

To activate streaming set the panel to streaming mode

Settings > Control > Advanced Controls

or via an external trigger (see *Chapter 5.2/ 5.3*)

To activate KiNET as the streaming protocol set the panel to streaming mode and select KiNET.

Applications > Lighting integration app > Streaming settings

Press save settings after changing the streaming protocol.

The PDS which will be simulated by the luminous textile has the number of ports as specified in *paragraph 6.2.6*.

Note:

- The first port is port 1.
- All nodes in each universe will start from DMX address 001.
- All ports will be automatically incremented to the number of ports the panel consumes.
- The PDS is mimicked with the number of port it actually consumes.

6.2.8 Testing and troubleshooting

If the image expected appears upside down, please go to panel orientation and change the rotation 180°.

If the image expected does not show, but a scrambled image shows, please go to panel orientation and check the rotation.

Settings > Control > General Settings > Panel orientation

Testing is optional, but advised as this is an easy way to check your installation.
Philips Color Kinetics is offering a software tool to "Quick Play Pro" for this. This software tool will allow checking if panels are correctly setup. Additionally it provides some tests to output data to specific channels to verify your setup.

http://www.colorkinetics.com/ls/controllers/quickplaypro/

Download and install the software

http://www.colorkinetics.com/support/addressing/

Open the software.
If you have multiple network interfaces active: Use Tools > Option > Network to select the correct network interface.

You should see a window similar as in *Figure 27*:

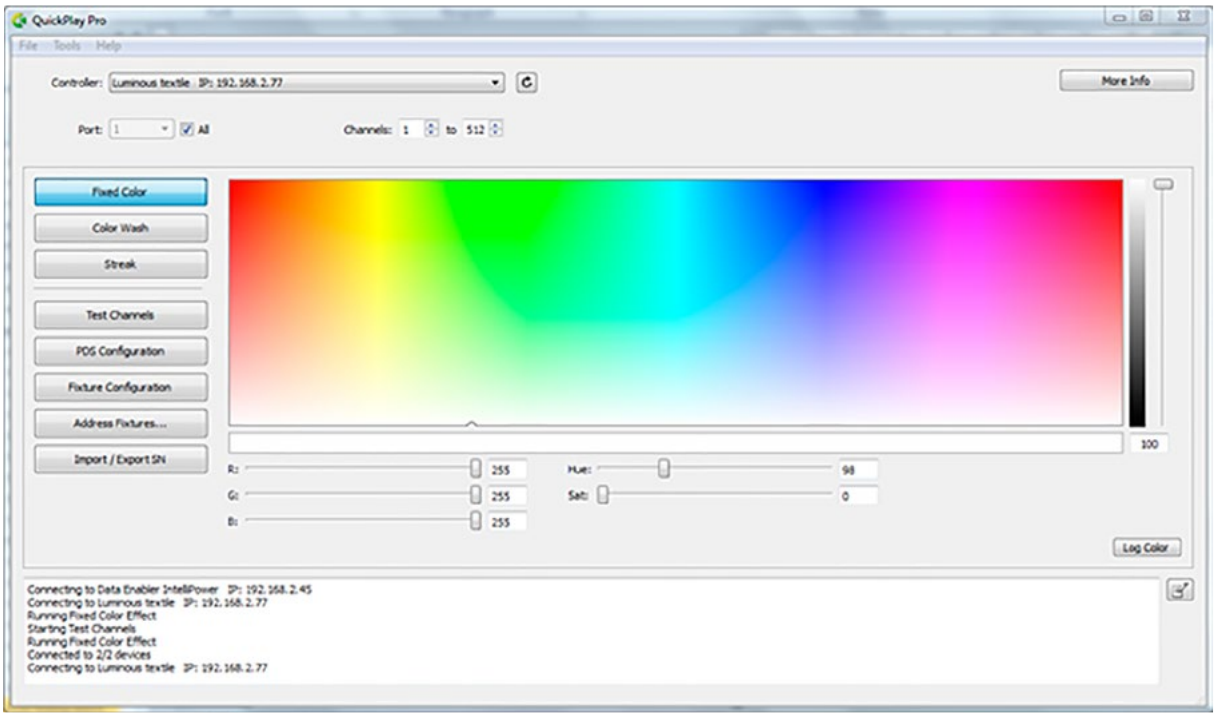

Figure 27: Quick Play Pro main window.

Use the controller dropdown menu to check if you have discovered all your panels.

Note

- Panels will be discovered both in streaming and player mode, regardless of KiNET or Art-Net mode

Select “All supplies” in the controller drop down window and “ all ports” to control your full installation. See *Figure 28*.

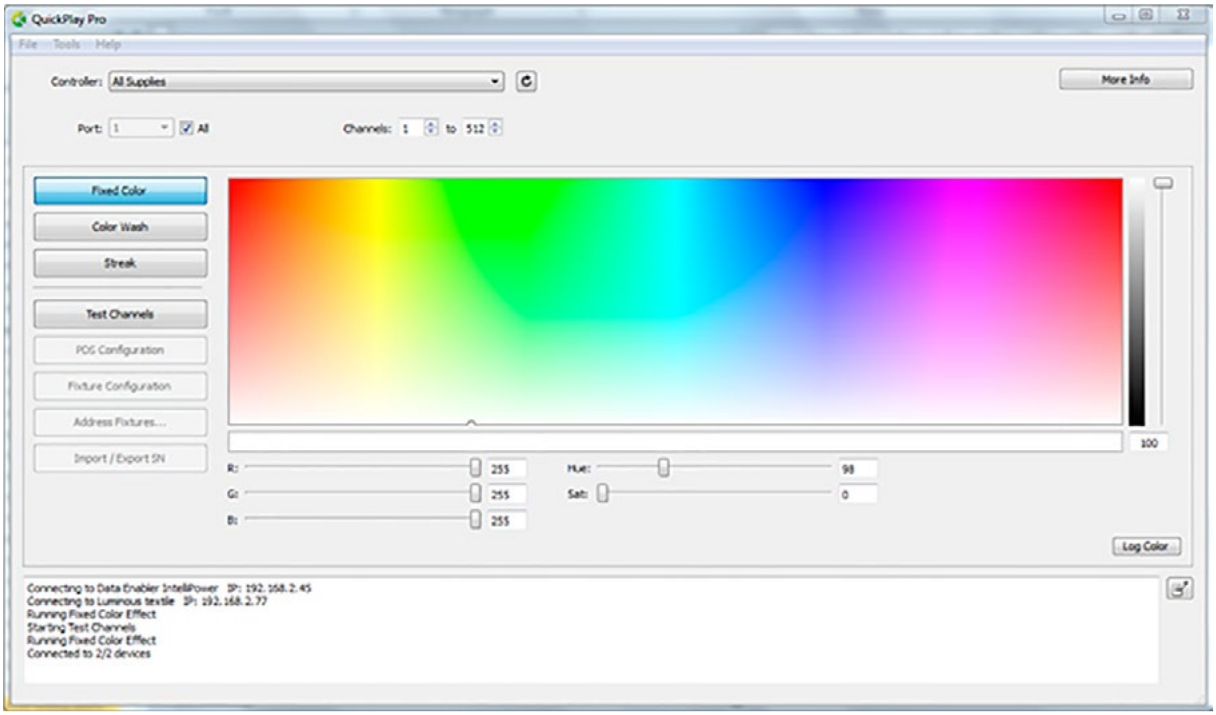

Figure 28: Quick Play Pro main window, Controller selection changed.

Use the Test Channels feature to test individual nodes. See *Figure 29*.

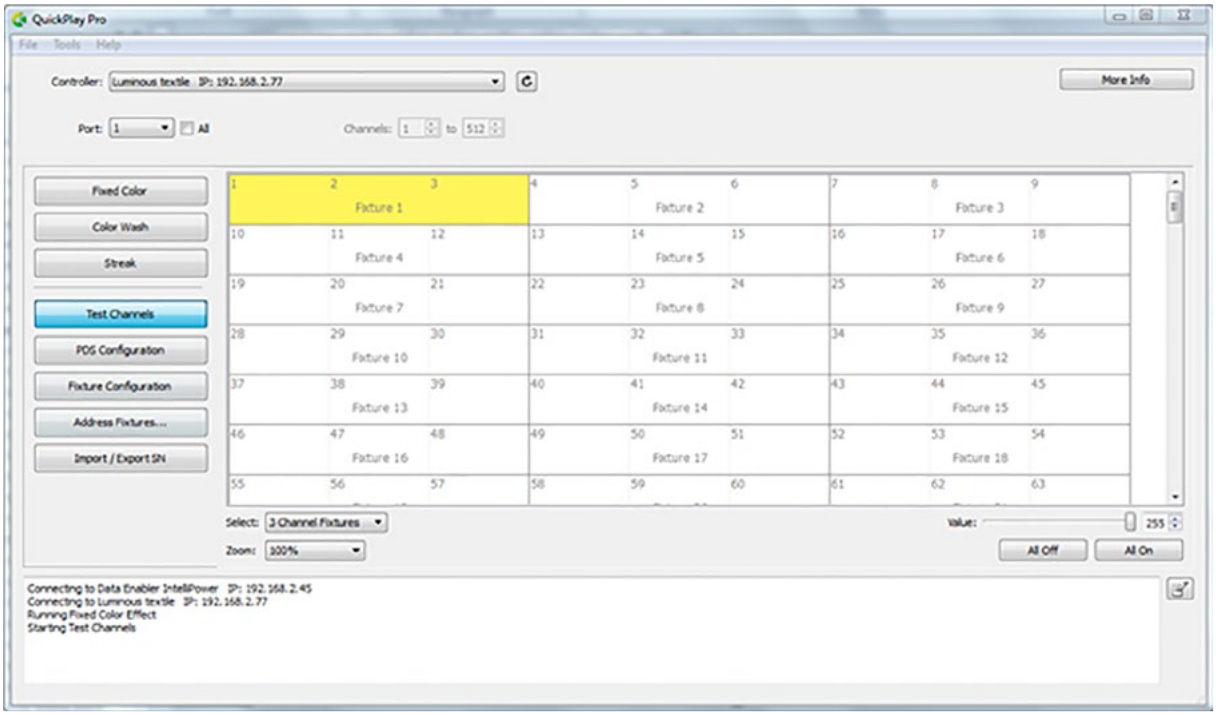

Figure 29: Quick Play Pro Test Channels window.

For further information about Quick Play Pro please check the manual

http://www.colorkinetics.com/support/userguides/Addressing_Configuration_Guide_QPP.pdf

or contact Philips Color Kinetics support at *technical.support@colorkinetics.com*

7. Default settings

Operation:	Player
Player Mode:	Standalone
Panel orientation:	0 degrees
Network Settings:	DHCP on
Dynalite settings Port number:	[empty]
Dynalite settings Area:	[empty]
Philips Color Kinetics Keypad settings	
Port number:	6041
Philips Color Kinetics Remote Keypad settings	
Port number:	6041
If DHCP is changed; the following defaults apply	
Change to DCHP off:	
static IP address:	10.11.11.10
Subnet mask:	[empty] (255.0.0.0 is used)
Gateway:	[empty]
If Operation is changed, the following defaults apply	
Steaming protocol:	KiNET
If Streaming protocol is changed, the following default applies:	
Default Art-Net address:	Net: 0 Subnet: 0 Universe: 0
Binding IP address 1:	2.66.19.79
Binding IP address 2:	2.66.19.80

8. Contact

Large Luminous Surfaces, Philips Lighting B.V
High Tech Campus 27
5600 AE Eindhoven, the Netherlands

Email: *info.luminous-textile@philips.com* or *support.luminous-textile@philips.com*
Website: *www.largeluminoussurfaces.com*

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